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USGA GREEN SECTION TURF ADVISORY SERVICE REPORT

**DEDHAM COUNTRY & POLO CLUB
DEDHAM, MASSACHUSETTS**

June 15, 2004

Present: Mr. Michael Stachowicz, Superintendent
Mr. Gary Klencheski, Green Chairman
Mr. Robert Forsburg, President
Mr. Linc Cornell, Green Committee
Mr. James E. Skorulski, Senior Agronomist, USGA

INTRODUCTION

This report is provided for the Turf Advisory Service visit conducted June 7, 2004 at Dedham Country & Polo Club.

We had an excellent spring afternoon to conduct this visit and tour the golf course. We discussed many topics during our visit and tour, which included management practices to reduce the high levels of thatch on greens, tees and fairways. We also looked at areas of poor drainage and discussed cultivation practices to improve the drainage capabilities of the greens. We examined tree plantings throughout the golf course and recommendations were provided to improve the quality of those plantings and to remove trees that are impacting turf, are potentially dangerous or are impacting the original design intent of the golf course. Other topics that will be addressed in this report included, the irrigation water supply, traffic and cart paths, green restoration work and other subjects.

GREENS

Cultivation Programs—There are high levels of thatch in the greens. The thatch leaves the surfaces softer than desired. Thatch can also impact water movement through the profile and leave the surfaces saturated. The softer, wet surfaces are more susceptible to mowing injury and mechanical damage. The sand content in the upper profile was also lower than expected. The finer textured soils in the upper profiles of the green are more prone to compaction, especially if they become wet.

Various forms of cultivation are used to reduce excessive thatch (organic matter) and to modify the soils. The double core cultivation with 1/2" tines planned by Mr. Stachowicz is a good means to complete the soil modification work quickly and with minimal impact on the surface. Completing a double aerification with 1/2" tines in both the spring and late summer would be optimal. The soil cores should be completely removed and replaced with your sand topdressing. Another option is to use 5/8" hollow tines that would create a larger hole. The larger tines would be used in late summer and the 1/2" tines used in spring. The larger holes will take more time to recover but are probably the easiest to backfill with sand.

Dethatching work with the Graden machine is another consideration for the greens. The Graden should be a successful tool, especially with the high quantities of velvet bentgrass in the greens. You can equip the Graden machine with 1mm blades, which will create less surface disruption. The 2mm blades will remove a larger quantity of thatch and will also make it easier to incorporate topdressing sand down into the turf canopy. The more aggressive dethatching work with 2mm blades can be completed in conjunction with core cultivation in late summer or early fall. The smaller blades can be used in early spring. You can use the Graden machine in a trial basis over several greens, to observe its effectiveness under your conditions.

The sand topdressing program for the greens is equally important for modifying the soils and preventing excessive thatch and organic matter accumulations. The topdressing should be continued on a three-week schedule as long as weather conditions permit. Complete the sand applications with vertical mowing, to help incorporate the sand through the turf canopy and into the underlying thatch layer. Vertical mowing will be suspended when weather conditions become more stressful. At that time, a light spiking can precede the light topdressing work.

The deep aerification on the soil-based greens is also a helpful program. Use the Verti-Drain equipped with 1/2" or 5/8" solid tines in later fall, after play has slowed. The later fall date will fracture the soil profiles and hopefully, provide some winter drainage. More recently, I have been observing the Verti-Drain or other deep aerification machines equipped with smaller diameter solid tines (1/4" pencil tines) that create minimal surface disruption. The 1/4" tines can penetrate down to a six-eight-inch depth, to alleviate internal compaction and encourage deeper rooting. Consideration might be given to purchasing a Verti-Drain machine so that this practice could be completed more frequently during the season. The Verti-Drain machine would also be an effective piece of equipment for tee boxes and other high traffic areas. Continue to use the Toro HydroJect machine, which is now in the equipment inventory, for deep aerification purposes. The Verti-Drain machine would actually be considered as a replacement for the Toro HydroJect machine in the future when replacement becomes necessary.

Practice Green—The primary practice green has been perennially weak. The weakness is due in part to the poor structure of the soils that was already discussed. The more aggressive core cultivation practices will be most helpful for that green. Trees are also impacting the green. Root pruning has been completed, to eliminate tree root competition. There are some shade problems that exist, due to a row of maple trees. Remove two Norway maple trees from the stand, as we discussed, to allow some additional sun to reach the practice putting green. A strong water management program is also required for this green, especially with the thatch level and high soil content in the upper profile. Maintaining this green and all of the greens in the driest state possible will allow the root system to grow more deeply and with greater vigor, which in turn will further reduce water requirements. Keeping the greens firm and dry will also lead to smoother surfaces and better ball roll.

Trees—Several additional tree recommendations were made during the visit, to improve growing environments around putting green complexes. Both the 8th and 9th greens are located in environments that appear to have limited air movement. Any steps that can be taken to remove brush and shrubbery along the wood lines of those greens will improve air movement to some degree. I realize that it may be difficult or not possible to complete some of the brush-clearing work that is needed because of concerns with wetland areas or abutting properties. Root prune around the perimeter of these greens as well, to eliminate tree root competition.



A red maple tree located in the walk-on/walk-off area adjacent to the 10th green is impacting traffic and is shading the turf. It should be removed, to eliminate the traffic problem and improve turf quality on the putting green and rough area adjacent to the green.

Restoration—I agree with Mr. Stachowicz's goal to restore the greens closer to their original design contours. It was apparent that there were many perimeter portions of the greens that have shrunken in size from their original dimensions. Completing the restoration work is not an easy project. Probably the best means to complete the restoration is to strip the sod from the collar and rough areas, re-grade those areas as necessary and regrass with a nursery sod established on the golf course. Steps are being taken to establish a putting green nursery on site. Once this has been developed, it will provide a sod that is almost identical to that in your putting greens. This will make the transition more effective. Steps will also have to be taken to move any irrigation piping and sprinkler heads from those areas that are to be reestablished to putting green turf before the restoration work is attempted. Mr. Stachowicz's plans to complete the work are sound and should proceed well once the new nursery is established.

TEES

Cultivation Programs—Thatch levels in many of the tees are also excessive, leaving the surfaces spongy and less stable. Similar programs of core cultivation are necessary, to remove the thatch from the tees. I would recommend removing and replacing the soil cores with straight sand topdressing identical to that completed on the putting greens. Use 5/8" hollow tines for the core cultivation work. The Graden can also be utilized but at a less aggressive depth than the greens because of the extent of the thatch in the tees. The Graden operation would be completed in conjunction with the core cultivation work when weather conditions are milder. Topdress the tees at the same frequency as the putting greens, to begin to firm the surfaces and encourage the breakdown of the thatch layer in place.

Tee Renovation—We discussed renovating several tees because of their unlevel playing surfaces (e.g. 7th and 17th tees). The tees would be renovated by stripping the existing sod and thatch layer from the tees. The native soils would then be graded using a box blade or laser-grading equipment. A sand/peat/soil construction mix can be used to finish any necessary grading work, if necessary. The level tees would then be reestablished with a commercial creeping bentgrass sod. The actual grading work can be completed by an outside contractor or landscaper with laser grading equipment. The staff can complete the rest of the project.

Trees—Trees are impacting many of the tee boxes. It was recommended to remove an ornamental cherry tree and surrounding shrubbery on the walk-on/walk-off area of the 1st tee. Removing the tree and shrubbery will provide a wider walk-on/walk-off area and will also eliminate the shade that is weakening the turf in the area. An unattractive shrub planting should be removed from the left side of the 1st tee as well. We also discussed pruning back or thinning a clump of trees and shrubbery on the right side of the tee adjacent to the pro shop, to eliminate interference with play and to improve the growing environment and appearance of the area. Remove a poplar tree from the right side of the 17th tee, to improve the growing environment and eliminate root competition on the tee box there. Remove a red maple along the right side of the 9th tee. Underbrush and smaller trees should also be removed from the back of the tee, to improve air movement and allow more afternoon sun to reach the turf. Root prune around the perimeter of this tee box as well.

Remove a red maple from the left side of the 11th tee and clear back brush and smaller trees from the right side of the tee, to improve the growing environment and to make the entire tee surface usable for play.

Cedars located adjacent to the 16th tee are also impacting the use of the tee. Cedars cause dense shade and I am sure their roots would be found in the tee box, competing with the turf for water and nutrients. I strongly recommend removing the white cedars,

to improve the quality and appearance of that tee and to reopen an excellent view of the golf course. Unfortunately, cedar hedges have been planted adjacent to several of the tee boxes. I would recommend eliminating all of the hedges that have outgrown the sites and are now impacting the playability of the tees as well as turf quality.

The 17th and 18th tee boxes are also being impacted by trees. Try to remove some of the trees along the right side of the 17th pond so that the right side of the tee box can be played. Remove some poor quality white cedar trees from the right side of the tee, to improve the growing environment and, possibly enable the expansion of the tee in that direction. Tree work should be completed along the left and right side of the 18th tee to improve the growing environment for the turf at that shaded site.

FAIRWAYS

Drainage—Portions of the 1st, 2nd, 4th, 6th and 10th fairways are poorly drained. Efforts to drain the areas have been made, with some success, in the past. Unfortunately, many of the drain lines in place are quite shallow and are now only partially effective. It is difficult to drain the site because of the low elevation and/or high water table in the wet fairways. The rock in the soil also complicates the drainage design at those sites. Installing drainage to replace that which is no longer working or any others where there is some elevation change to work with can be completed in-house by the staff. However, drainage design in the lower lying areas appears to be complex because of the lack of elevation and difficulties mentioned earlier. I have observed good drainage designs developed by Mr. John K. Kelly, Kelly AMI, Inc. (514) 697-1130. The drainage design company works almost exclusively with golf courses so their projects are designed appropriately and with as little surface disruption as possible. It would be helpful to develop a drainage Master Plan, which would address all of these areas. The engineers would then oversee the installation of the work, which would be completed by an outside contractor. The drainage engineers specialize in the sand-slit system that is very effective for flat areas where there is minimal elevation change.

A fairway topdressing program would be helpful for the wet fairways. The light topdressing can be implemented immediately, to begin to obtain some of the benefits from that work. The heavier sand applications would be made in spring and fall in conjunction with cultivation work. Use solid tines on those fairways that are to be topdressed prior to the application. Dethatching can also be completed prior to the sand topdressing, to help incorporate more sand further into the thatch layer. Several light sand applications should be made over the wet fairways through the summer as well. It is critical to topdress all of the approach areas as aggressively as possible. The sand topdressing will help to firm those areas so that a proper pitch shot can be played to the greens, which will become firmer with the topdressing and more aggressive cultivation programs in place.



Topdressing sands are being applied to immediate approach areas, to firm those surfaces and to improve their playability and uniformity.

Trees—Continue with the work to expose rock outcroppings and open up wood lines along the fairways. Removing the smaller trees, underbrush and poor quality trees will benefit the remaining trees and should improve air movement over the golf course. This will reduce disease pressure and environmental stress. The rock outcroppings are a natural design feature, unique to your golf course. Opening the wood lines will also highlight the better quality trees that are now being obscured from view. Two lovely sugar maple trees on the left side of the 1st fairway are examples where removing lesser-value trees will expose those better quality tree species, to highlight their quality and improve the appearance of the area. I also agree with the idea to remove three spruce trees from the right side of the 2nd fairway, as they are impacting the playability of that hole and blocking the view. We discussed removing those trees from the back of the 2nd green, to improve the green complex and also to expose a view of the golf course. The rock outcropping on the left of the 6th fairway should be exposed, as should the rock outcropping on the right side of the 8th fairway.

Trees that separate the 10th and 11th holes should slowly be removed from the rough area. The naturalized grasses in that area provide very good separation between the holes and the views provided by the tree removal would be very good. Spruce on the

right side of the 11th fairway should also be removed and they can be replaced with a specimen quality maple tree. Remove more trees and cedars from the left side of the 13th fairway. We discussed tree removal work along both sides of the 18th fairway as well.

A golf course architect would be helpful in reviewing the trees with you and discussing their impact on the playability of the golf course and its original design intent. The recommendations provided will probably be similar to those that we discussed during the visit but it is likely that additional removals will also be recommended when the playability/design issue becomes a primary focus.

Green Surrounds—The entry and exit points to several greens were weak at the time of this visit. Tree issues are impacting the walk-on areas adjacent to the 2nd and 10th green, as discussed earlier. The soils in these areas are also compacted. Core cultivating the soils or using a machine such as the AerWay or AERA-vator would be ideal to alleviate compaction in these areas. They should stimulate more vigorous growth. Utilize a natural organic fertilizer to supplement fertility practices in these areas, to offset the effects of the traffic.

ADDITIONAL COMMENTS

Water Supply/Irrigation—The irrigation water supply is probably inadequate should we experience another drought. Efforts to find a well to recharge the current pond have not been successful. It would not be a bad idea to utilize the services of a dowser, to try to find a potential well site. I would also examine the possibility of building a new irrigation storage pond in the lower-lying area adjacent to the 18th fairway or one of the lower fairways. That pond would be used to store additional storm water runoff from the site. A transfer pump could be utilized to move that water into the irrigation supply pond or an additional irrigation pump could be utilized to pump the water directly into the irrigation system. It would be necessary to work with a hydrologist, to determine if there is a site feasible for an additional storage pond. I realize the difficulty of obtaining permits for any work of this type in your area. You would have to work closely with an environmental consultant as well as the hydrologist or an independent irrigation consultant, to make an additional pond a reality.

Mr. Stachowicz is modifying the irrigation system, to provide more individual sprinkler head control and better control over the water management. This will, hopefully reduce the amount of water that has been used to irrigate the golf course in the past. A strong water management program should keep the golf course firm, the turf healthy and conserve water. However, there is still a need to secure a larger water source, to properly irrigate the golf course during extended periods of drought.

Traffic/Cart Paths—The cart path system throughout the golf course is terrible. There are instances around green and tee complexes where there are excessive paths or the

paths are located in important play areas. The paths also detract from the overall appearance of the golf course. A long-range capital improvement program should include the cart path system. It would be best to use an aerial photograph of the current golf course to help design a cart path network for the golf course. Poor quality paths would then be replaced and/or relocated as necessary. Entry and exit points would be designed to disperse traffic more widely, to avoid wear injury to the turf. Paths should also be constructed with curbing around tees and green complexes, to prevent wear damage to turf adjacent to the paths. Paths that are located on hills or that are heavily used will perform more effectively if they are paved. The appearance of those paths will also be improved with paving. Cart paths are a necessary evil if the membership desires to use golf carts on a more regular basis. Reducing the use of the carts through developing a strong caddy program is one way to reduce the need for the paths.

Master Plan—I realize that a Master Plan has been completed for the golf course and much of the plan was implemented. However, I found the golf course lacking an identity or a consistent style. Examples of this were evident with some of the plantings that were observed on the golf course, the tree plantings, the bunker styling, the various degrees of manicuring and as mentioned before, the cart path system. The membership is extremely fortunate to have a classically-designed golf course. Some design changes were made with the most recent work. However, there is still a feeling of the classic architecture, which may be developed further. At the same time, maintenance programs can be tailored to bring out the classic appearance and feeling of the golf course. I would suggest working with a golf course architect that identifies well with classically designed architecture. The architect can examine some of the work that has been completed and may be able to provide suggestions for slight modifications that will restore the golf course closer to its classical origin and also provide guidance for the cart path work, tree removal work, fairway contouring, etc.

It is my personal feeling that the golf course should be maintained in a classical style that includes limited manicuring, developing naturalized grassland areas, removing poor-quality and ill-advised trees and shrubbery beds from the property. The greens, tees, approaches/fairways should all be maintained in a firm condition for optimal playability and less emphasis placed on aesthetics. I am not recommending abandoning aesthetics but priorities should, once again, be down the middle with turf quality and playability of important play areas. A golf course architect that shares a similar philosophy would be well suited for the classically-designed golf course.

CONCLUSION

I thoroughly enjoyed my visit and see great potential with the golf course. It appears that the maintenance programs are on the right track to providing quality playing conditions. There are some significant capital needs including major drainage work, adjustments with the irrigation system, tree removal work and upgrading the cart path

system. Hopefully, we can continue to work together to see the implementation of the necessary programs that will allow the golf course to reach its full potential.

Sincerely,



James E. Skorulski, Senior Agronomist
Northeast Region Green Section

JES/reh

cc: Mr. Michael Stachowicz, Superintendent
Mr. Gary Klencheski, Green Chairman
Mr. Robert Forsburg, President

Reprints: Common Sense Cart Paths **C1**
American Society of Golf Course Architects Membership List, 2000 **G1**
Things To Do Before Contacting A Golf Course Architect **G2**
Restoring The Past **P30**
Poa/Bent Nurseries – A Perfect Match **P34**

Enclosure: Golf Course Architects List